

BEFORE

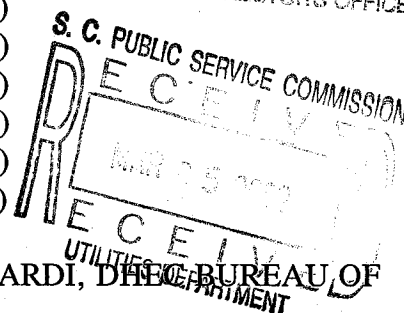
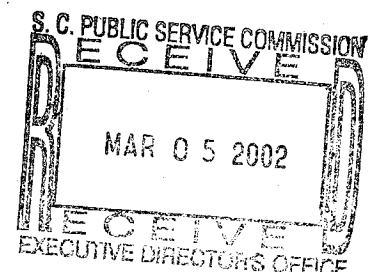
003-562

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2001-0507-E

IN RE: Palmetto Energy Center, LLC)
Application for a Certificate of)
Environmental Compatibility)
and Public Convenience)
and Necessity to Construct and)
and Operate a Generating Plant)
in Bradley Industrial Park in the)
Vicinity of Fort Mill, SC.)



PREFILED TESTIMONY OF WILLIAM G. GALARDI, DIRECTOR, BUREAU OF AIR QUALITY

1. Q. Please state your name and address for the record.
A. William G. Galardi, Bureau of Air Quality, SCDHEC, 2600 Bull Street, Columbia, S.C. 29201.
2. Q. By whom are you employed?
A. By the South Carolina Department of Health and Environmental Control.
3. Q. How long have you been employed by DHEC?
A. Over twenty-five years.
4. Q. What is your position at DHEC?
A. Assistant Bureau Chief, Bureau of Air Quality.

RETURN DATE: 06/20/02
SERVICE: 06/20/02

5. Q. Please describe your responsibilities.
- A. Since November 1993, I have served as Assistant Bureau Chief for the Bureau of Air Quality. My responsibilities include supervising all aspects of the implementation of State and Federal Air Programs in South Carolina. I directly, or indirectly, supervise agency activities related to air quality permitting, compliance, enforcement, modeling, planning, and regulation development.
6. Q. What is your educational background?
- A. I have an undergraduate degree in Biology and a Master's in Public Administration from the University of South Carolina.
7. Q. Are you familiar with the proposal by Palmetto Energy Center, LLC, for a gas-fired electric generating facility to be constructed near Fort Mill, SC?
- A. I am aware that we have received an application but have not reviewed it.
8. Q. What is your responsibility with regard to the Permit to Construct?
- A. As part of my duties as Assistant Bureau Chief of the Bureau of Air Quality, I am involved in the issuance of permits to construct in a senior management role. I am not involved in the day to day review of individual permit applications. The detailed review of permit applications is handled by the permit engineers and their immediate supervisors. As a part of my supervisory responsibilities, I receive periodic updates as to status of permit reviews, technical issues or concerns, public involvement or concerns, etc. Any air quality issues or concerns raised by staff, the applicant, the public, or other participants that have policy implications would be raised to me and

other senior management personnel for resolution.

9. Q. With respect to this permit, are there such issues or concerns?

A. Yes.

10. Q. What are those concerns?

A. One of the requirements of the Prevention of Significant Deterioration (PSD) permit is a successful demonstration that the emissions from a facility will not cause or contribute to an exceedance of the national ambient air quality standards. While this area and other areas of the state currently are considered attainment for ambient air quality standards, EPA has promulgated additional and more stringent standards for ozone. These standards are currently being challenged in federal court. Based on ambient air monitoring data, the counties along the I- 85 corridor would be considered non-attainment. This is the case without considering effect of the increased emissions from facilities similar to this application. Combustion turbines emit significant levels of Nitrogen Oxides (NO_x). NO_x is a major precursor in the formation of ground level ozone. Therefore, by the magnitude of their individual emissions they raise the question of non-attainment implications for this vulnerable area. The cumulative implications further magnify our concern. We are aware of at least eight projects of this type in the I-85 corridor. The cumulative implications of those eight would add over 5500 tons of NO_x to this area.

11. Q. Why is that of concern?

A. As mentioned in response to an earlier question, data from our network of air monitors along the I-85 corridor indicate these areas

will not comply with federally promulgated standards. For a non-attainment area, emission budgets for contributing pollutant emission sources would have to be developed. Current and new industry wanting to move into the area would be impacted. Requirements such as reducing emissions from existing sources, limiting new growth, or not allowing new growth at all could be potential consequences of a non-attainment designation.

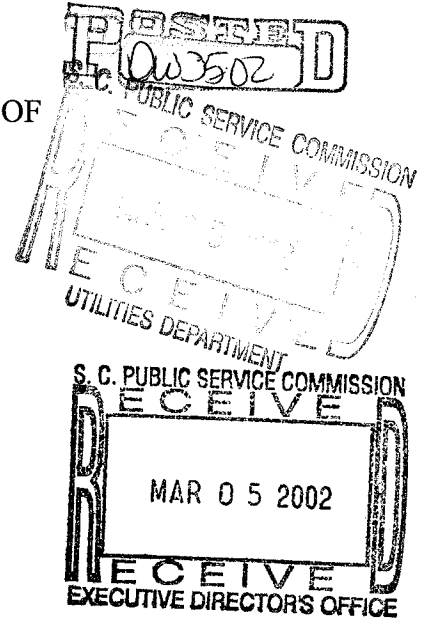
12. Q. What is the Bureau of Air Quality doing about this?

A. The Bureau of Air Quality is currently in the midst of an ozone modeling project that will allow us to measure what impact additional emissions will have on an area's attainment status. The results of this modeling effort are not currently available but will be available to the Bureau of Air Quality prior to our making a determination on the permit status for this project.

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PREFILED TESTIMONY OF MARION SADLER, DHEC BUREAU OF WATER

- 1 1. Q. Please state your name and business address for the record.
2 A. Marion F. Sadler, Jr., 2600 Bull Street, Columbia, SC, 29201.
- 3 2. Q. By whom are you employed?
4 A. The South Carolina Department of Health and Environmental Control.
- 5 3. Q. How long have you been employed by DHEC?
6 A. Over thirty years.
- 7 4. Q. What is your position at DHEC?
8 A. I am Director of the Industrial, Agricultural and Stormwater Permitting
9 Division, Bureau of Water.
- 10 5. Q. Please describe your responsibilities.
11 A. I direct the day to day activities of permit engineers who evaluate
12 applications and write permits for National Pollutant Discharge
13 Elimination System (NPDES) permits, stormwater permits, and
14 wastewater construction permits.

RETURN DATE: DL DW
SERVICE: OK DW

1 6. Q. What education have you received?
2 A. Bachelor's degree in mechanical engineering and a Master's degree in
3 environmental engineering.

4 7. Q. Are you familiar with the proposal by Palmetto Energy Center, LLC, for a
5 gas-fired electric generating facility to be constructed near Fort Mill, SC?
6 A. Yes.

7 8. Q. Has the company filed an application with the Bureau of Water for either a
8 wastewater construction permit or NPDES permit?
9 A. No, we have not received either of these applications on this facility.

10 9. Q. What is your responsibility with regard to the NPDES Permit and the
11 Permit to Construct that may be needed by the facility?
12 A. Upon receipt of the applications, an engineer on my staff will review the
13 applications and draft the permits. I will be involved in any permitting
14 decisions in a supervisory capacity.

15 10. Q. How many permits have you written or overseen?
16 A. Approximately 150 in the past year, and hundreds during the course of my
17 career.

18 11. Q. What regulations and statutes are applicable to this project?
19 A. The South Carolina Pollution Control Act, §§ S.C. Code Ann. 48-1-10 *et*
20 *seq.*; the Federal Clean Water Act and Amendments, 33 U.S.C. 1254 *et*
21 *seq.*; Water Pollution Control Permits, S.C. Code Ann. Reg. 61-9;
22 Construction Permits, S.C. Code Ann. Reg. 61-67; and Water Quality
23 Standards, S.C. Code Ann. Reg. 61-68,

24 12. Q. What are the applicable permitting requirements?
25 A. Discharges to surface waters must comply with State water quality
26 standards found in Regulation 61-68. Regulation 61-9 defines the
27 procedural steps for drafting and issuing permits, and specifies mandatory
28 permit conditions. For wastewater discharges, a facility must receive a
29 finally effective NPDES permit before it can receive a permit to construct.
30 This may be applicable to this project.

31 13. Q. What is the procedure for issuing an NPDES permit?
32 A. Applications for NPDES permits go through several phases: preliminary
33 review; public comment; and the permit decision.

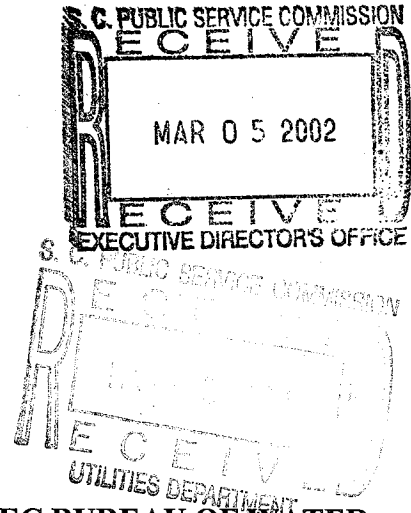
- 1 14. Q. What is involved in the preliminary review?
2 A. First, the engineer assigned to the project verifies that the permit
3 application is complete. After the permit is deemed complete, the
4 engineer identifies the pollutants of concern in the proposed discharge and
5 determines appropriate limitations for each pollutant. If the engineer
6 concludes that the proposed activity can be conducted in accordance with
7 applicable regulations, a draft permit is prepared using state and Federal
8 regulations as a basis.
- 9 15. Q. Please describe the public notice and comment process.
10 A. Once a draft permit has been prepared, it is put on public notice to allow
11 for public participation. For some applications, a public hearing may be
12 conducted. We receive and review comments and at the conclusion of the
13 comment period, change the draft permit as necessary to address issues
14 raised by the comments.
- 15 16. Q. What comes after the public comment process?
16 A. If no technical issues are brought up during the public comment period
17 that would give cause for denying the permit, the project engineer would
18 then recommend to me that the permit be issued.

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PREFILED TESTIMONY OF LARRY TURNER, DHEC BUREAU OF WATER

1 **Q. Please state your name and business address for the record?**

2
3 A. Larry E. Turner, SC DHEC, 2600 Bull Street, Columbia, South Carolina

4 **Q. What Division do you work in at the South Carolina Department of Health**
5 **and Environmental Control?**

6
7 A. I work in the Water Quality Modeling Section of the Division of Water Quality
8 in EQC's Bureau of Water.

9 **Q. What are you job duties and responsibilities?**

10 A. I am the manager of the Water Quality Modeling Section. My section uses
11 mathematical models to predict the impact of certain water quality pollutants on
12 streams. I and the other members of my section determine the appropriate initial
13 conditions, set the model parameters, and review and validate the model
14 calculations. We provide information such as waste load allocations to permit
15 writers.

16 **Q. What is your education and training?**
17

RETURN DATE: DL DW
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1 A. I have a bachelor's degree from the University of South Carolina and a master's
2 of science degree in public health with a major in environmental science from the
3 University of South Carolina. I have attended numerous EPA training courses on
4 general water quality modeling concepts as well as training on specific water
5 quality models. I have also attended modeling short courses offered by academic
6 institutions.

7 **Q. Please define "waste load allocation"?**

8 A. A waste load allocation is that portion of a streams assimilative capacity for a
9 particular pollutant that is allocated to one or more point source discharges.

10 **Q. What computer models do you use?**

11
12 A. SC DHEC uses a number of different models depending on the physical and flow
13 characteristics of the water body that is being simulated. Regarding a steady state,
14 free flowing stream, a model called QUAL2E would be used. Regarding a tidal
15 river, a model like WASP or the Branch/BLTM model may be used.

16 **Q. What are the models based upon?**

17 A. QUAL2E and WASP are models that have been developed and are supported by
18 the US Environmental Protection Agency. Branch/BLTM was developed by the
19 US Geological Survey.

20 **Q. Are the models generally accepted as being appropriate for these purposes?**

21 A. Yes.

22 **Q. What have you been asked to do in regard to the Palmetto Energy Center**
23 **project?**

24 A. Nothing as of this time. The Water Quality Modeling Section has not received a
25 wasteload allocation request for the facility, though I have been told that an
26 National Pollutant Discharge Elimination System (NPDES) permit application
27 was received by the Department's Industrial, Agricultural and Stormwater
28 Permitting Division on February 28, 2002.

29 **Q. What type analysis will be required for the Palmetto Energy Center project?**

30 A. The Department will have to determine the impact of the discharge on water

1 quality in the receiving stream. The Water Quality Modeling Section will
2 determine, using an appropriate model or analysis, the impact of the discharge on
3 dissolved oxygen concentrations in the receiving stream. . As part of this analysis
4 we will take into account conditions in the receiving stream and potential
5 interactions with existing upstream or downstream water users.

6 **Q. Are you able to provide any specific comments and analysis on the Palmetto**
7 **Energy Center project at this time?**

8 A. No, not at this time. The Department will need to evaluate the application to
9 ensure it includes information necessary to determine the impact of the proposed
10 discharge. This would include information such as the location of the discharge
11 and the receiving stream, the source and quantity of water to be used by the
12 facility, the quantity of water to be discharged, and an estimate of the
13 characteristics of the water to be discharged including such parameters as oxygen
14 demanding substances and heat.

15 **Q. What general comments can you offer on the Palmetto Energy Center**
16 **project?**

17 A. According to unofficial information provided to the Department, the facility will
18 consist of 3 combined cycle turbine units. Based on information provided by an
19 applicant for a similar facility, such units use approximately 3 mgd of cooling
20 water per unit with approximately 80% of this water lost due to evaporation. The
21 remaining water must be disposed of in some manner. The wastewater associated
22 with a combined cycle unit can vary greatly in terms of quality depending on the
23 source of the water. Impacts to the receiving stream would vary as well. In
24 addition to conventional pollutants, such as oxygen demand and nutrients, a
25 discharge from a combined cycle plant could reasonably be expected to include
26 other pollutants such metals and heat. Impacts from a combined cycle generating
27 plant may or may not be significant depending on the characteristics of the
28 wastewater and the receiving stream. Impacts could not be determined until an
29 application supplying the needed information was received and evaluated.

30 **Q. When do you anticipate completing a review of the Palmetto Energy Center**
31 **project?**

32 A. It is difficult to answer this question because the Department has just received the
33 application and has not had time to evaluate the project. . When a waste load
34 allocation request is received by the Water Quality Modeling Section, the project
35 will be reviewed in as timely a manner as possible. Note that review time is
36 impacted by, among other things, the complexity of the proposed project, the
37 completeness of the application, the availability of information on the receiving

1 stream and potential interactions with upstream and/or downstream dischargers.
2 Considering the Section's current work load and the complexity of the situation
3 on the Catawba River, a quick review is not anticipated.

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